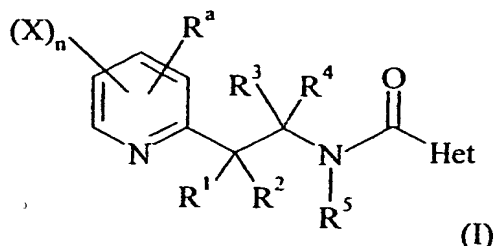


# CLAIMS

1. A compound of general formula (I)



in which :

- n is 1, 2 or 3;
- R<sup>a</sup> is a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms;
- each substituent X is chosen, independently of the others, as being a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>6</sub>-alkyl or a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl;
- R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are chosen, independently of the others as being a hydrogen atom, a halogen atom, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a carbamoyl group, a N-hydroxycarbamoyl group, a carbamate group, a (hydroxyimino)-C<sub>1</sub>-C<sub>6</sub>-alkyl group, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>2</sub>-C<sub>6</sub>-alkenyl, a C<sub>2</sub>-C<sub>6</sub>-alkynyl, a C<sub>1</sub>-C<sub>6</sub>-alkylamino, a di-C<sub>1</sub>-C<sub>6</sub>-alkylamino, a C<sub>1</sub>-C<sub>6</sub>-alkoxy, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkoxy having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylsulfanyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C<sub>2</sub>-C<sub>6</sub>-alkenyloxy, a C<sub>2</sub>-C<sub>6</sub>-halogenoalkenyloxy having 1 to 5 halogen atoms, a C<sub>3</sub>-C<sub>6</sub>-alkynyloxy, a C<sub>3</sub>-C<sub>6</sub>-halogenoalkynyloxy having 1 to 5 halogen atoms, a C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, a C<sub>3</sub>-C<sub>6</sub>-halogenocycloalkyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylcarbonyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbamoyl, a di-C<sub>1</sub>-C<sub>6</sub>-alkylcarbamoyl, a N-C<sub>1</sub>-C<sub>6</sub>-alkyloxycarbamoyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxycarbamoyl, a N-C<sub>1</sub>-C<sub>6</sub>-alkyl-C<sub>1</sub>-C<sub>6</sub>-alkoxycarbamoyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyloxy, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonylamino, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylcarbonylamino having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylaminocarbonyloxy, a di-C<sub>1</sub>-C<sub>6</sub>-alkylaminocarbonyloxy, a C<sub>1</sub>-C<sub>6</sub>-alkyloxycarbonyloxy, a C<sub>1</sub>-C<sub>6</sub>-alkylsulphenyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylsulphinyl, a C<sub>1</sub>-

C<sub>6</sub>-halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylsulphonyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylsulphonyl having 1 to 5 halogen atoms, a benzyl, a benzyloxy, a benzylsulfanyl, a benzylsulfinyl, a benzylsulfonyl, a benzylamino, a phenoxy, a phenylsulfanyl, a phenylsulfinyl, a phenylsulfonyl, a phenylamino, a phenylcarbonylamino, a 2,6 dichlorophenyl-carbonylamino group or a phenyl group; or R<sup>1</sup> and R<sup>2</sup> may form together a cyclopropyl, a cyclobutyl, a cyclopentyl or a cyclohexyl;

with the proviso that when three of the four substituents R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are a hydrogen atom, then the fourth substituent is not a hydrogen atom;

- R<sup>5</sup> is chosen as being a hydrogen atom, a cyano group, a formyl group, a hydroxy group, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkoxy, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkoxy having 1 to 5 halogen atoms, a C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, a C<sub>3</sub>-C<sub>6</sub>-halogenocycloalkyl having 1 to 5 halogen atoms, a C<sub>2</sub>-C<sub>6</sub>-alkenyl, a C<sub>2</sub>-C<sub>6</sub>-alkynyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-cyanoalkyl, a C<sub>1</sub>-C<sub>6</sub>-aminoalkyl, a C<sub>1</sub>-C<sub>6</sub>-alkylamino-C<sub>1</sub>-C<sub>6</sub>-alkyl, a di-C<sub>1</sub>-C<sub>6</sub>-alkylamino-C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl, a C<sub>1</sub>-C<sub>6</sub>-halogenalkylcarbonyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkyloxycarbonyl, a C<sub>3</sub>-C<sub>7</sub>-cycloalkyl, a C<sub>3</sub>-C<sub>7</sub>-halogenocycloalkyl having 1 to 5 halogen atoms, a C<sub>3</sub>-C<sub>7</sub>-cycloalkyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-benzyloxycarbonyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl, a C<sub>1</sub>-C<sub>6</sub>-alkylsulfonyl or a C<sub>1</sub>-C<sub>6</sub>-halogenoalkylsulfonyl having 1 to 5 halogen atoms; and

- Het represents a 5-, 6- or 7-membered non-fused heterocycle with one, two or three heteroatoms which may be the same or different, Het being linked by a carbon atom and being at least substituted in ortho position;

as well as its salts, N-oxydes, metallic complexes, metalloidic complexes and optically active isomers.

2. A compound according to claim 1, characterised in that n is 1 or 2.

3. A compound according to claim 1 or 2, characterised in that X is a halogen atom.

4. A compound according to claim 3, characterised in that X is chlorine.

5. A compound according to any of the claims 1 to 4, characterised in that R<sup>a</sup> is -CF<sub>3</sub>.

6. A compound according to any of the claims 1 to 5, characterised in that the 2-pyridyl is substituted in 3- and/or in 5-position.

7. A compound according to claim 6, characterised in that the 2-pyridyl is substituted in 3-position by X and in 5-position by R<sup>a</sup>.

8. A compound according to any of the claims 1 to 7, characterised in that the 2-pyridyl is substituted in 3-position by -Cl and in 5-position by -CF<sub>3</sub>.

9. A compound according to any of the claims 1 to 8, characterised in that R<sup>1</sup> and R<sup>2</sup> are chosen, independently of each other, as being a hydrogen atom, a halogen atom, a cyano group, a hydroxy group, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms, a C<sub>2</sub>-C<sub>6</sub>-alkenyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxy, a C<sub>1</sub>-C<sub>6</sub>-alkylsulfanyl, a C<sub>1</sub>-C<sub>6</sub>-alkylsulfenyl, a C<sub>1</sub>-C<sub>6</sub>-alkylsulfinyl, a C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonylamino, a C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyloxy, a C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonylamino or a phenyl group.

10. A compound according to claim 9, characterised in that R<sup>1</sup> and R<sup>2</sup> are chosen, independently of each other, as being a halogen atom, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms or a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonylamino.

11. A compound according to any of the claims 1 to 10, characterised in that R<sup>3</sup> and R<sup>4</sup> are chosen, independently of each other, as being a hydrogen atom, a halogen atom, a cyano group, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms, a C<sub>1</sub>-C<sub>6</sub>-alkylcarbonylamino or a phenyl group.

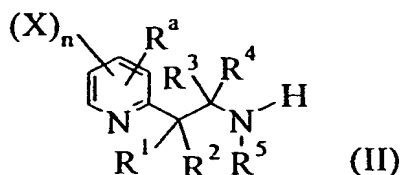
12. A compound according to claim 11, characterised in that R<sup>3</sup> and R<sup>4</sup> are chosen, independently of each other, as being a halogen atom, a C<sub>1</sub>-C<sub>6</sub>-alkyl, a C<sub>1</sub>-C<sub>6</sub>-halogenoalkyl having 1 to 5 halogen atoms or a phenyl group.

13. A compound according to any of the claims 1 to 12, characterised in that R<sup>5</sup> is a hydrogen atom or a C<sub>3</sub>-C<sub>7</sub>-cycloalkyl.

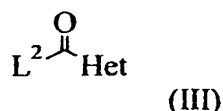
14. A compound according to any of the claims 1 to 13, characterised in that Het is a five membered ring heterocycle.

15. A compound according to any of the claims 1 to 13, characterised in that Het is a six membered ring heterocycle.

16. A process for the preparation of a compound of general formula (I) as defined in any of the claims 1 to 15, which comprises reacting a 2-pyridine derivative of general formula (II) or one of its salt :



in which X, n, R<sup>a</sup>, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> are as in any of the preceding claims; with a carboxylic acid derivative of the general formula (III)

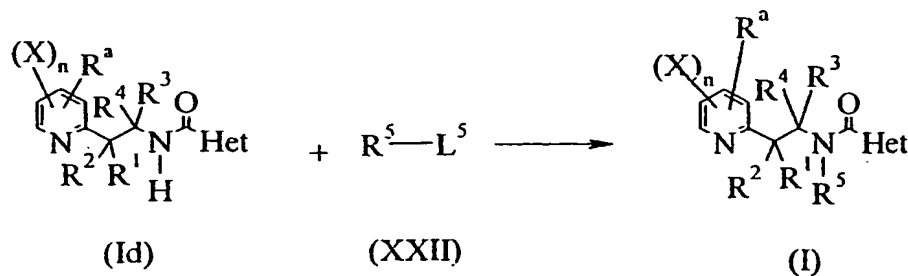


in which :

- Het is as defined in any of the preceding claims ; and
- L<sup>2</sup> is a leaving group chosen as being a halogen atom, a hydroxyl group, -OR<sup>6</sup>, -OCOR<sup>6</sup>, R<sup>6</sup> being a C<sub>1</sub>-C<sub>6</sub> alkyl, a C<sub>1</sub>-C<sub>6</sub> haloalkyl, a benzyl, 4-methoxybenzyl, pentafluorophenyl or a group of formula  $\text{---} \text{O} \text{---} \text{C}(=\text{O}) \text{---} \text{Het}$  ;

in the presence of a catalyst and, if L<sup>2</sup> is a hydroxyl group, in the presence of a condensing agent.

17. A process according to claim 16, characterised in that R<sup>5</sup> is a hydrogen atom and that the process is completed by a further step according to the following reaction scheme :



in which : - R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>a</sup>, X, n and Het are as defined in any of the claims 1 to 15;

- L<sup>5</sup> is a leaving group chosen as being a halogen atom, a 4-methyl phenylsulfonyloxy or a methylsulfonyloxy;

5 comprising the reaction of a compound of general formula (Id) with a compound of general formula (XXII) to provide a compound of general formula (I).

**18.** A fungicidal composition comprising an effective amount of a compound according to any of the claims 1 to 15 and an agriculturally acceptable support.

10 **19.** A method for preventively or curatively combating the phytopathogenic fungi of crops, characterised in that an effective and non-phytotoxic amount of a composition according to claim 18 is applied to the plant seeds or to the plant leaves and/or to the fruits of the plants or to the soil in which the plants are growing or in which it is desired to grow them.

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